A STUDY ON BUYERS' ATTITUDE TOWARDS VEHICLE SECURITY SYSTEM WITH SPECIAL REFERENCE TO COIMBATORE DISTRICT

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ABSTRACT

Crime never sleeps goes the adage and we bear witness to it in our communities, neighborhoods, and cities. All kinds of crimes are committed on a given day and the loss and fear of these attacks inflict pain in unimaginable ways. Take the case of car crimes, the act varies from a carjacking, a forced takeover of the car by a thief to break-ins to steal valuables in the car. The sense of violation felt by the owner can be great and the feeling of being helpless is multiplied. With this in mind let us Segway into the topic of Vehicle Security Systems. The threat is constant and the exposure to risk increases with the increase in valuable assets owned. Therefore we can safely assume that the onus is on the owner to seek ways of protecting their asset. There are plenty of anti-theft devices on the market now. From car alarms to GPS enabled tracking devices. The customer can invest in a system that best suits his need. The study aimed for the awareness and Satisfaction level of the buyer's towards the vehicle security systems in the market and if they have implemented them in their vehicles to also measure the level of satisfaction in the products. The sample size taken for the study is 129 respondents from the Coimbatore district by using the Convenience Sampling Method. The study found that there is a significant relationship between Residential Area with Global Positioning System. There is no significant relationship between Gender and Innovative Technology as well as between age group and an increase in cybersecurity risk in a car security system. The study suggests that moving on to security devices immobilizers ranked the highest in their spread and usage among this category of study subjects. This is interesting to note that other security devices like alarms and tracking devices were even lower in preference. This can be a future area of an understudy for the car dealer to bring in more devices that cover whole other areas of security issues like deterring theft and tracking capabilities.The study concludes that companies must market to this need rather than the fear, as fears are passing and not stationary. But a cautious attitude and prudence are excellent virtues to inculcate and aim for in oneself in all areas of life who knows it could very well be the difference of life and death.

Keywords:*Buyers Attitude, Vehicle Security System, Car Buyers, Car Security System*

1. INTRODUCTION

The joy of owning a car is something most people dream to accomplish. Many a small child will excitedly describe their dream car when asked. And when that desire is achieved a glowing sense of pride wells in the heart of the owner. As prudent as it is to work hard to achieve a dream, it would be all the more prudent to safeguard that dream. In this case, the asset to be protected is an automobile. The advancement in technology is a great boon in this industry as the best security system must always be a step ahead of the cleverest thief. There are many instances when a crime is committed like theft of a car when it is unattended, a crime of opportunity that

milks a vulnerable situation, theft by force where the thief carjacks and overpowers the owner or it could be a break in to steal the valuables in a car or the damage to the car from joyriders who escape off with the car. In any case, the loss and damage to the vehicle are enormous.

1.1 VEHICLE SECURITY SYSTEM

For these reasons, a car or vehicle can be fitted with a security device to deter, frighten, or prevent theft. A Vehicle security system (VSS) is a system that combines internet technology, GPS (Global Positioning System) and GPRS (General Packet Radio Service) technologies to track down the location of vehicles. The vehicle monitoring system allows a party to locate, track and monitor its vehicles in real time[1].There are many vehicle security systems and let's see a few explained here.

- Car alarms are the most basic form of security systems. The siren and the alternative headlights are meant to scare and deter theft from happening. The sensors on the windows and doors will vibrate and set off the alarms. Alarms can be passive meaning it will be automatically turned on and active which means it needs to be engaged manually. Their effectiveness is greatly seen in the drop in rates of car crimes once they came into use.
- Immobilizers are devices that come installed when the car is manufactured. The device shuts off the fuel connection to the ignition making it look like engine trouble when the thief attempts to steal it. The ploy works most of the time as this is an inexpensive but effective device to deter theft.
- Kill Switches can come in a knob hidden under the dashboard or as remote key fobs and once they are engaged it will shut the fuel connection or ignition circuit. The theft can be fooled to believe the car has starting issues and abandon all attempts to steal the car and move to another car.
- Safety locks come in different types based on where they are used. Like the steering wheel lock which is exclusively used for the locking of a steering wheel. The hood lock to protect the expensive parts of the car's engine. Tire locks and clamps act as additional safety locks on the tires to keep it from being towed or driven away.
- Tracking devices use GPS capabilities and theycan track the car to its exact location. This will greatly help with the recovery of a stolen vehicle. The GSM module is incorporated in the system to be able to relay a text or call when the call is tampered or stolen.

When investing in a system the owner must assess the need factor, cost factor, and after purchase maintenance factor. Any system that would incur more expense or upkeep after installing should be reconsidered before purchase. The system must warrant the need for the car and not just be jacked up to show an impressive security system. The owner must research the products and compare prices and efficiency of the providers of the services and products for the best deals on the market.

1.2 STATEMENT OF THE PROBLEM

Assessing a threat and coming up with a suitable security system is a task in itself. Threat and risk are only approximations of what can happen but never the actual estimation of what may come. The word security system is one that has multiple components coming together to make a security net for the vehicle. Car alarms have sensors, sirens, and flashing lights to make up a system. The question is since there are so many moving parts in a system how does the customer decide on one that will suit his need. Thanks to marketing the products are made to be known to the public. But the main aim of the study is to know how marketing has affected the awareness levels of the buyer's in the city of Coimbatore. Has the market penetration been good? So that the buyers are aware of the products offered in the market. If the buyer has invested in a security device or system how has the product brought satisfaction to the owner? In this study, the two parameters of awareness and satisfaction of customer will be studied.

1.3 OBJECTIVES OF THE STUDY

1. To study the awareness level towards the Vehicle Security System
2. To study the satisfaction level towards theVehicle Security System

1.4 REVIEW OF LITERATURE

Graham Farrell et al., (2011)[2] have sought to find how the implementation of vehicle security devices have affected the crime rate and if it was a positive one. One of the things observed was that there was a significant drop in crimes committed involving a car in the 1990s after the standardization of implementation of anti-theft devices in the car. The UK made it mandatory for car manufacturers to implement security devices like an immobilizer to curb crime on cars and the results proved when there was a two-thirds drop in crime. In addition to analyzing past positive trends in vehicle security systems, the researcher has also studied the effectiveness of

implementing tracking devices in a car. Though the crime rates have dropped it cannot be said that there is a total stop in the threat. Methods of carrying out crime have evolved as the various security systems have matured.

Mohammed F. Alrifaie et al., (2018)[3]have endeavored to study and build a vehicle security system which will use the Internet of things to make the security system work. The model proposed is a combination of hardware and software elements integrated with the IoT to operate the system. The security system has been fitted with GPS capabilities that use the satellite to track the vehicle and relay the longitudinal and latitudinal coordinates to the owner through the use of GSM technology. The system is also fitted with a camera that can also relay live images of the driver to the owner. This system is best suited for fleet car operations and transport businesses. As the owner can know the exact whereabouts of the car at any given time of the day. This can help with tracking a vehicle when it is stolen and recovery will be made easy. The owner can rest his care as he will be notified in case of a break-in or theft.

N. Kiruthiga et al., (2015)[4]have undertaken to innovatively employ the use of biometrics in the vehicle security system of a car. The biometrics is so that only authenticated users can access the car. The moment an illegal entry is made an alert is sent to the owner through the GSM modalities and the car will be automatically immobilized thereby arresting any movement of the car. The system is an embedded one with the use of a PIC microcontroller which controls the shutting of fuel connection and the battery to the engine to stall the car. This is seen as a novel approach with the use of biometrics unauthorized drivers are denied access to the cars. This provides multilevel protection to the car and the owner is made aware of entries and exits from the car.

Kudakwashe Mawonde et al., (2018)[5]have undertaken a valiant effort to study the impact of vehicle security systems in the markets of South Africa. For this purpose, the researchers have undertaken to study previous and current literature on this subject to better understand the reach and scope of the vehicle security systems. The focal point of the study was to do a comparison between the many devices and systems in the market and how they provide security to the vehicle. They also wished to find if the existing technology was able to handle the attack put on it. In sense has it been able to stand up to the rigors of everyday theft and crime. It will be important to note that all systems will have gaps that the thief will at some point exploit to his

advantage. Just as with any technological advancement, the system is only good when it's one step ahead of the thief and many of the newer modalities had weaker encryption that made them susceptible to break-ins.

Nick Morgan et al., (2016)[6] this study was on the impact of vehicle security systems and their effectiveness in the real world crime situations. The study was part of a report submitted to the Home Office England and Wales. From past reports, it was gathered that the 1960s saw a spike in car crimes but with the mandatory implementation of security devices, this rise in trend was curbed and halted. But those devices only prevented the car from moving but did nothing to stop break-ins and stealing of valuables from the car. But the good news is with the use of more modern security systems crime rate has dropped throughout the region. The study conferred that making and implementing better security devices is the way ahead to preventing crime.

2. RESEARCH METHODOLOGY

The present research centers on the adequacy of the special system on buyers' attitudes towards vehicle security systems. The reasoning that is utilized in this research is realism. The specialist gathers and investigations information utilizing adequate learning to answer the examination question, so the exploration is more disposed towards realism.

2.1 RESEARCH DESIGN

The type of research chosen for the study is descriptive research. In descriptive research, various parameters will be chosen and analyze the variations between these parameters. This was done to find out theawareness level and satisfaction level towards the vehicle security system.

2.2 DATA SOURCES

The data collected for the study is mainly through the distribution of a questionnaire; to be precise the data collected for thestudy was both primary and secondary sources.

2.3 PRIMARY DATA

Primary data is the information collected for the first time; there are several methods in which the data complies. In this project, it was obtained by questionnaires. The data were collected through an online survey using ‘Google form’ and sent to study participants through WhatsApp and E-mail. Participants were provided full consent before participation in the online survey.

2.4 SECONDARY DATA

Secondary data needed for conducting research work were collected from websites, library, and search engines.

2.5 RESEARCH INSTRUMENT:

In this study, the primary data was collected by a survey technique. In this, we distributed the questionnaires to the respondents. The researcher structured the questionnaire in the form of:

1. Close-Ended Questions
2. Multiple Choice Questions

2.6 SAMPLING DESIGN:

Sampling design is to clearly define a set of objectives, technically called the universe to be studied. The sampling technique used is a Convenience Sampling Method.

2.7 SAMPLE SIZE:

This refers to the number of items to be selected from the universe to constitute a sample. The sample size for this study is 129 respondents from the Coimbatore district. The respondents are well known about the Vehicle security system features.

2.8 TOOLS USED FOR THE STUDY

The tools used for the study are Simple Percentage analysis, Chi-Square Analysis,Factor Analysis, Descriptive Statistics, and Anova analysis.

3. DATA ANALYSIS AND INTERPRETATION

I.SIMPLE PERCENTAGE ANALYSIS

TABLE 1: DISTRIBUTION OF SAMPLES BASED ON VARIABLES

S.No.	Category	Subgroups	Number	%	Total (%)
1.	Residential area	Rural area	37	28.7	100
		Urban Area	45	34.9	
		Semi-Rural Area	33	25.6	
		Semi-Urban Area	14	10.9	
2.	Gender	Male	75	58.1	100
		Female	54	41.9	
3.	Age Group	Less than 30 years	28	21.7	100
		30 to 40 years	36	27.9	
		41 to 50 years	51	39.5	
		Above 50 years	14	10.9	
4.	Educational Qualification	School Level	20	15.5	100
		Graduate	30	23.3	
		Postgraduate	33	25.6	
		Diploma/ITI	17	13.2	
		Professional	29	22.5	
6.	Occupation	Private Employee	30	23.3	100
		Government Employee	64	49.6	
		Agriculturist	11	8.5	
		Business	15	11.6	
		Others	9	7.0	

The above Table No:1depicts that, out of 129 respondents, 34.9% of the respondents are from 'Urban area' whereas 28.7% of the respondents are from 'Rural area', 25.6% of the respondents are from 'Semi-Rural area' and the remaining 10.9% of the respondents are from 'Semi Urban area'.

- Followed by Gender, 58.1% of the respondents are 'Male' and 41.9% of the respondents are 'Female'.
- Amongst the Age Group, 39.5% of the respondents are aged between '41 to 50 years' whereas 27.9% of the respondents' age lies between '30 to 40 years', 21.9% of the respondents' are 'Less than 30 years' of age group and the remaining 10.9% of the respondents are aged 'Above 50 years'.

- According to Educational Qualification, 15.5% of the respondents belong to 'School level' whereas 23.3% of the respondents are 'Graduate', 25.6% of the respondents are qualified with 'Post Graduate', 13.2% of the respondents are qualified to 'Diploma/ITI' and the remaining 22.5% of the respondents are qualified with 'Professional'.
- Amongst the Occupation, 49.6% of the respondents are doing 'Business' whereas 23.3% of the respondents are 'Private Employee', 11.6% of the respondents are 'Government Employee', 8.5% of the respondents are 'Agriculturist' and the remaining 7% of the respondents belongs to 'others'.

TABLE 2: SOURCE OF AWARENESS ABOUT THE VEHICLE SECURITY SYSTEM

Sources of awareness about the car	No. of Respondents	Percent
Advertisements	16	12.4
Friends	28	21.7
Relatives & Neighbours	3	2.3
Self	31	24.0
Dealers	31	24.0
Others	20	15.5
Total	129	100.0

The above Table No:2 depicts that, out of 129 respondents, 24% of the respondents came to know about the vehicle security system by 'Self' and the same level of respondents came to know the vehicle security system through 'Dealers', 21.7% of the respondents came to know through 'Friends', 15.5% of the respondents came to know through 'others' and the remaining 2.3% of the respondents came to know through 'Relatives & Neighbours'.

TABLE 3: PURPOSE OF PURCHASING THE CAR

The purpose of purchasing the car	No. of Respondents	Percent
Personal use	22	17.1
Business use	92	71.3
Both purposes	15	11.6
Total	129	100.0

Above Table, No:3 depicts that, out of 129 respondents, 71.3% of the respondents use the car for 'Business use' whereas 17.1% of the respondents use the car for 'Personal use' and the remaining 11.6% of the respondents use the car for 'Both Purposes'.

TABLE 4: ECONOMICAL RANGE OF CAR

Economical Range of Car	No. of Respondents	Percent
Economic Car	73	56.6
Midrange car	36	27.9
Premium Car	20	15.5
Total	129	100.0

The above Table No:4 stated that, out of 129 respondents, 56.6% of the respondents using 'Economic Car' whereas 27.9% of the respondents using 'Midrange Car' and the remaining 15.5% of the respondents using 'Premium Car'.

TABLE 5: PLACE OF CAR PURCHASE

Place of Car Purchase	No. of Respondents	Percent
Car Showroom	32	24.8
Car Exhibitions	67	51.9
Used Car Showroom	14	10.9
Others	16	12.4
Total	129	100.0

The above Table No:5 stated that, out of 129 respondents, 24.8% of the respondents purchase the car in 'Car showroom' whereas 51.9% of the respondents purchase the car in 'Car Exhibitions', 10.9% of the respondents purchase the car in 'Used Car showroom' and the remaining 12.4% purchase the car belongs to 'others'.

TABLE 6: TYPE OF VEHICLE POSSESSED

Type of vehicle possessed	No. of Respondents	Percent
Hatchback	15	11.6
Sedan	29	22.5
SUV/Crossover	5	3.9
Sports Utility Vehicle	31	24.0
Multi Utility Vehicle	29	22.5
Others	20	15.5
Total	129	100.0

The above Table No:6 stated that, out of 129 respondents, 11.6% of the respondents possessed on 'Hatchback' cars whereas 22.5%of the respondents possessed on 'Sedan', 3.9% of the respondents possessed on 'SUV/Crossover', 24% of the respondents possessed on 'Sports Utility Vehicle', 22.5% of the respondents possessed on 'Multi Utility Vehicle' and the remaining 15.5% of the respondents possessed on 'Others' type of cars.

TABLE 7: PERIOD OF USING CARS IN YEARS

Period of using the cars in years	No. of Respondents	Percent
1-3 years	36	27.9
4-5 years	45	34.9
6-8 years	34	26.4
Above 8 years	14	10.9
Total	129	100.0

The above Table No:7 depicts that, out of 129 respondents, 27.9% of the respondents using the car between '1 to 3 years' whereas 34.9% of the respondents using the car between '4 to 5 years', 26.4% of the respondents using the care between '6 to 8 years' and the remaining 10.9% of the respondents are using the car 'Above 8 years'.

TABLE 8: TYPE OF FUEL USED IN CAR

Type of fuel used in car	No. of Respondents	Percent
Petrol	28	21.7
Diesel	84	65.1
LPG	17	13.2
Total	129	100.0

Above Table, No:8 depicts that, out of 129 respondents, 21.7% of the respondents' are using 'Petrol' for their car whereas 65.1% of the respondents' are using 'Diesel' and the remaining 13.2% of the respondents are using 'LPG'.

TABLE 9: LEVEL OF AWARENESS TOWARDS VEHICLE SECURITY SYSTEM

Descriptive Statistics					
Factors	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Alarm	129	1.00	5.00	2.3488	1.29090
Tracking System	129	1.00	2.00	1.4729	.50121
Immobilizing Devices	129	1.00	5.00	2.9767	1.36052
Kill Switches	129	1.00	5.00	2.8062	1.35829
Window decals	129	1.00	5.00	2.3566	.69370
Valid N (listwise)	129				

INTERPRETATION: The above table 9 elaborates the level of awareness towards vehicle security system factors which are ranked from 1 to 5. **'**Immobilizing Devices' has taken the first stance with a mean value of 2.96767 whereas 'Kill Switches' stood at second with a mean value of 2.8062, 'Window decals' stood at third with a mean value of 2.3566, 'Alarm' stood at fourth with a mean value of 2.3488 and 'Tracking System' stood at fifth with a mean value of 1.4729.

TABLE 10: LEVEL OF OPINION TOWARDS VEHICLE SECURITY FACTORS

Descriptive Statistics					
Factors	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Stringent Car security regulations	129	1.00	5.00	2.5349	1.12532
Multi-factor authentication for Car safety	129	1.00	5.00	3.3178	1.33454
An increasing number of advanced security technologies in Car security system	129	1.00	5.00	3.7209	1.40299
Cost of premium car security features are reasonable	129	1.00	5.00	2.6744	1.45324
Potential failure of electronic components used in Car security system	129	1.00	5.00	2.3488	.78711
Increased Car demand for Security based technologies	129	1.00	5.00	2.7674	1.03465
Rise of biometric technology in-car security system are welcome	129	1.00	5.00	3.3333	1.33658
Increase in cybersecurity risk in car security system	129	1.00	5.00	3.5814	1.51914
Valid N (listwise)	129				

INTERPRETATION: The above table 10 elaborates the level of opinion towards vehicle security factorswhich are ranked from 1 to 8. **'**Increasing number of advanced security technologies in Car security system' has taken the first stance with a mean value of 3.7209 whereas 'Increase in cybersecurity risk in car security system' stood at second with a mean value of 3.5814, 'Rise of biometric technology in-car security system are welcome' stood at third with a mean value of 3.3333, 'Multi-factor authentication for Car safety' stood at fourth with a mean value of 3.3178, 'Increased Car demand for Security based technologies' stood at fifth with a mean value of 2.7674,' Cost of premium car security features are reasonable' stood at sixth with a mean value of 2.6744, 'Stringent Car security regulations' stood at seventh with a mean value of 2.5349 and 'Potential failure of electronic components used in Car security system' stood at last with a mean value of 2.3488.

TABLE 11: LEVEL OF SATISFACTION TOWARDS VEHICLE SECURITY SYSTEM

Descriptive Statistics					
Factors	**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Alarms	129	1.00	5.00	2.8450	1.50753
Immobilizers	129	1.00	5.00	2.9070	1.04912
Central Locking System	129	1.00	5.00	2.4884	.94469
Passive Keyless Entry	129	1.00	5.00	2.9302	1.09106
Remote Keyless Entry	129	1.00	5.00	3.5194	1.39251
Global Positioning System	129	1.00	5.00	2.7752	1.23263
Face Detection System	129	1.00	5.00	2.3333	1.12731
Radio Frequency Identification	129	1.00	5.00	2.6124	.92119
Valid N (listwise)	129				

INTERPRETATION: The above table 11 elaborates the level of satisfaction towards vehicle security system factors which are ranked from 1 to 8. **'**Remote Keyless Entry' has taken the first stance with a mean value of 3.5194 whereas 'Passive Keyless Entry' stood at second with a mean value of 2.9302, 'Immobilizers' stood at third with a mean value of 2.9070, 'Alarms' stood at fourth with a mean value of 2.8450, 'Global Positioning System' stood at fifth with a mean value of 2.7752, 'Radio Frequency Identification' stood at sixth with a mean value of 2.6124, 'Central Locking System' stood at seventh with a mean value of 2.4884 and finally 'Face Detection System' stood at eighth with a mean value of 2.3333.

TABLE 12: MEAN RANKING TOWARDS THE REASON FOR PURCHASING THE CAR

Descriptive Statistics					
Reasons	**N**	**Mean**	**Std. Deviation**	**Minimum**	**Maximum**
Status symbol	129	8.5891	4.62097	1.00	16.00
Competitive price	129	8.5969	4.64105	1.00	16.00
Innovative technology	129	8.6047	4.66272	1.00	16.00
After Sales service	129	8.6124	4.68593	1.00	16.00
New design	129	8.6202	4.71068	1.00	16.00
Resale value	129	8.6279	4.73694	1.00	16.00
Free maintenance and washes	129	8.6357	4.76468	1.00	16.00
Reputation of the car	129	8.6434	4.79387	1.00	16.00
Low consumption of fuel	129	4.7287	4.26423	1.00	16.00
Less maintenance cost	129	8.0388	4.61215	1.00	16.00
Minimization of pollution	129	8.1705	4.53653	1.00	16.00
Engine safety & Durability	129	8.3023	4.48540	1.00	16.00
Claim option for mishap	129	8.4341	4.45962	1.00	16.00
Public transport deficiency	129	8.5659	4.45962	1.00	16.00
Suitable for pleasure trips	129	8.6977	4.48540	1.00	16.00
Suitable for emergency situations	129	8.9535	4.53951	1.00	16.00

INTERPRETATION: The above table 12explains the mean ranking towards the reason for purchasing the car which are ranked from 1 to 16. **'**Suitable for emergency situations' has taken the first stance with a mean value of 8.9535 whereas 'Suitable for pleasure trips' stood at second with a mean value of 8.6977, 'Reputation of the car' stood at third with a mean value of 8.6434, 'Free maintenance and washes' stood at fourth with a mean value of 8.6357, 'Resale value' stood at fifth with a mean value of 8.6279, 'New design' stood at sixth with a mean value of 8.6202, 'After Sales service' stood at seventh with a mean value of 8.6124, 'Innovative technology' stood at eighth with a mean value of 8.6047, 'Competitive price' stood at ninth with a mean value of 8.5959, 'Status symbol' stood at tenth with a mean value of 8.5891, 'Public transport deficiency' stood at eleveth with a mean value of 8.5659, 'Claim option for mishap' stood at twelfth with a

mean value of 8.4341, 'Engine safety & Durability' stood at thirteenth with a mean value of 8.3023, 'Minimization of pollution' stood at fourteenth with a mean value of 8.1705, 'Less maintenance cost' stood at fifteenth with a mean value of 8.0388 and finally 'Low consumption of fuel' stood at sixteenth with a mean value of 4.7287.

FACTOR ANALYSIS

TABLE 13: KMO AND BARTLETT'S TEST

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.412
Bartlett's Test of Sphericity	Approx. Chi-Square	768.735
	df	120
	Sig.	.000

Above table 13 indicates that in the present test The Kaiser-Meyer-Olkin (KMO) measure was 0.412. Bartlett's sphericity test indicating Chi-Square =768.735, df = 120 with a significance of 0.000. The significance value is 0.000 which is less than 0.05 of the significance level which indicates that factor analysis may be useful with the data collected.

TABLE 14 : TOTAL VARIANCE EXPLAINED

Total Variance Explained						
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.379	33.619	33.619	5.379	33.619	33.619
2	4.134	25.838	59.458	4.134	25.838	59.458
3	1.376	8.602	68.059	1.376	8.602	68.059
4	1.189	7.434	75.493	1.189	7.434	75.493
5	.794	4.963	80.457			
6	.617	3.854	84.311			
7	.516	3.226	87.537			
8	.369	2.306	89.843			
9	.329	2.059	91.902			
10	.256	1.597	93.499			
11	.246	1.538	95.037			
12	.208	1.303	96.340			
13	.198	1.237	97.577			
14	.187	1.168	98.745			
15	.178	1.113	99.858			
16	.023	.142	100.000			
Extraction Method: Principal Component Analysis.						

Only four factors in the initial solution have eigenvalues greater than 1. Together, they account for almost 75% of the variability in the original variables. This suggests that four latent influences are associated with reasons for purchasing the particular brand of car, but there remains room for a lot of unexplained variation. The second section of this table shows the variance explained by the extracted factors before rotation. The cumulative variability explained by these four factors in the extracted solution is about 75%, without any difference in percentage from the initial solution. Thus, no lost in the variation from the initial solution.

Component Matrix				
	Component			
Factors	**1**	**2**	**3**	**4**
Status symbol	-.068	.778	.130	.344
Competitive price	-.360	.708	.347	.157
Innovative technology	-.597	.518	.376	-.123
After-Sales Service	-.748	.245	.203	-.323
New design	-.793	-.061	-.076	-.324
Resale value	-.729	-.347	-.314	-.129
Free maintenance and washes	-.567	-.564	-.388	.142
Reputation of the car	-.329	-.675	-.265	.326
Low consumption of fuel	.155	-.308	.214	.567
Less maintenance cost	.412	-.657	.365	.170
Minimization of pollution	.621	-.520	.376	-.081
Engine safety & Durability	.756	-.283	.195	-.295
Claim option for the mishap	.792	.015	-.094	-.348
Public transport deficiency	.723	.319	-.338	-.197
Suitable for pleasure trips	.558	.572	-.409	.070
Suitable for emergencies	.357	.704	-.288	.267
Extraction Method: Principal Component Analysis.				
a. 4 components extracted.				

The First component is highly correlated with the factor ‘Claim option for mishap’.The Second component is highly correlated with the factor ‘Status symbol’.The Third Component is highly correlated with the factor ‘Innovative technology’ and ‘Minimization of pollution’.The fourth component is highly correlated with the factor ‘Low consumption of fuel’.

A.DEMOGRAPHIC FACTORS WITH CENTRAL LOCKING SYSTEM

TABLE 15: ANOVA ANALYSIS

Null Hypothesis (H_0): There is no significant relationship between demographic factors with the central locking system

Alternative Hypothesis (H_a): There is a significant relationship between demographic factors with the central locking system

ANOVA							
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**	**Remarks**
Residential Area	Between Groups	10.019	4	2.505	2.785	.029	Rejected
	Within Groups	111.516	124	.899			
	Total	121.535	128				
Gender	Between Groups	6.631	4	1.658	8.301	.000	Rejected
	Within Groups	24.764	124	.200			
	Total	31.395	128				
Age	Between Groups	4.902	4	1.225	1.382	.244	Accepted
	Within Groups	109.935	124	.887			
	Total	114.837	128				
Educational Qualification	Between Groups	2.870	4	.717	.371	.829	Accepted
	Within Groups	239.936	124	1.935			
	Total	242.806	128				
Occupation	Between Groups	2.310	4	.578	.425	.790	Accepted
	Within Groups	168.496	124	1.359			
	Total	170.806	128				

The ANOVA table no.15 indicates the probability value of ANOVA at a 5% level of significance stated that the null hypothesis is accepted between the Age, Educational Qualification, Occupation with the central locking system. There is no significant association between the Age, Educational Qualification, Occupation with the central locking system. Besides, there is a significant association between residential area, gender with the central locking system.

TABLE 16: RESIDENTIAL AREA VERSUS GLOBAL POSITIONING SYSTEM

Null Hypothesis (H_0): There is no significant relationship between Residential Area with Global Positioning System

Alternative Hypothesis (H_a): There is a significant relationship between Residential Area with Global Positioning System

Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	23.928[a]	12	.021
Likelihood Ratio	25.511	12	.013
Linear-by-Linear Association	5.338	1	.021
N of Valid Cases	129		
a. 10 cells (50.0%) have expected count less than 5. The minimum expected count is .22.			

Calculated Value	**Table Value**	**Level of Significance**	**Null Hypothesis**
23.928	21.026	0.05	Rejected

From the above table No: 16, the calculated value is 23.928 and the table value for the degrees of freedom 12 at 0.05 level of significance is 21.026. Since the calculated value is greater than the table value, the null hypothesis is rejected. The result implies that there is a significant relationship between Residential Area with Global Positioning System

TABLE 17: GENDER VERSUS INNOVATIVE TECHNOLOGY

Null Hypothesis (H_0): There is no significant relationship between Gender and Innovative Technology

Alternative Hypothesis (H_a): There is a significant relationship between Gender and Innovative Technology

Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	3.723[a]	15	.999
Likelihood Ratio	3.747	15	.998
Linear-by-Linear Association	.941	1	.332
N of Valid Cases	129		
a. 29 cells (90.6%) have expected count less than 5. The minimum expected count is 2.51.			

Calculated Value	**Table Value**	**Level of Significance**	**Null Hypothesis**
3.723	24.996	0.05	Accepted

From the above table No: 17, the calculated value is 3.723 and the table value for the degrees of freedom 15 at 0.05 level of significance is 24.996. Since the calculated value is lesser than the table value, the null hypothesis is accepted. The result implies that there is no significant relationship between Gender and Innovative Technology.

TABLE 18: AGE GROUP VERSUS INCREASE IN CYBERSECURITY RISK IN CAR SECURITY SYSTEM

Null Hypothesis (H_0): There is no significant relationship between age group and an increase in cybersecurity risk in car security system

Alternative Hypothesis (H_a): There is a significant relationship between age group and an increase in cybersecurity risk in car security system

Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	9.831[a]	9	.364
Likelihood Ratio	10.303	9	.327
Linear-by-Linear Association	.824	1	.364
N of Valid Cases	129		
a. 6 cells (37.5%) have expected count less than 5. The minimum expected count is .33.			

Calculated Value	**Table Value**	**Level of Significance**	**Null Hypothesis**
9.831	16.919	0.05	Accepted

From the above table No: 18, the calculated value is 9.831 and the table value for the degrees of freedom 9 at 0.05 level of significance is 16.919. Since the calculated value is less than the table value, the null hypothesis is accepted. The result implies that there is nosignificant relationship between age group and an increase in cybersecurity risk in a car security system.

4. RESULTS AND DISCUSSIONS

4.1 FINDINGS

- 34.9% of the respondents are from the 'Urban area'.
- The majority of 58.1% of the respondents are 'Male'.
- 39.5% of the respondents are aged between '41 to 50 years'.
- 25.6% of the respondents are qualified with 'Post Graduate'.
- 49.6% of the respondents are doing 'Business'.
- 24% of the respondents came to know about the vehicle security system by 'Self' and the same level of respondents came to know the vehicle security system through 'Dealers'.
- The majority of 71.3% of the respondents use a car for 'Business use'.
- Majority of 56.6% of the respondents using 'Economic Car' only.
- The majority 51.9% of the respondents purchase the car in 'Car Exhibitions'.
- 22.5%of the respondents possessed on 'Sedan', 24% of the respondents possessed on 'Sports Utility Vehicle' and 22.5% of the respondents possessed on 'Multi Utility Vehicle'.
- 34.9% of the respondents using the car between '4 to 5 years'.
- 65.1% of the respondents' are using 'Diesel'.
- The level of awareness towards vehicle security system factors is ranked from **'**Immobilizing Devices' has taken the first stance with a mean value of 2.96767 and the 'Tracking System' stood at last with a mean value of 1.4729.
- The level of opinion towards vehicle security factors are ranked from **'**Increasing number of advanced security technologies in Car security system' has taken the first stance with a mean value of 3.7209 and 'Potential failure of electronic components used in Car security system' stood at last with a mean value of 2.3488.

- The level of satisfaction towards vehicle security system factors are ranked from **'**Remote Keyless Entry' has taken the first stance with a mean value of 3.5194 and 'Face Detection System' stood at last with a mean value of 2.3333.
- The mean ranking towards the reason for purchasing the car is ranked from **'**Suitable for emergencies' has taken the first stance with a mean value of 8.9535 and 'Low consumption of fuel' stood at last with a mean value of 4.7287.
- There is no significant association between the Age, Educational Qualification, Occupation with the central locking system.
- There is a significant association between residential area, gender with the central locking system.
- There is a significant relationship between Residential Area with Global Positioning System
- There is no significant relationship between Gender and Innovative Technology.
- There is no significant relationship between the age group and an increase in cybersecurity risk in a car security system.

4.2 SUGGESTIONS

- The study has thrown light to the age category that has been seen with the most spending capacity as those in the '40s to 50's age group and the majority was for business purposes. It can be seen that cars meant for the business purpose were of the multi-utility vehicle. This is an excellent insight into understanding the mind of a business car buyer and target marketing to this category will be a great start.
- Moving on to security devices immobilizers ranked the highest in their spread and usage among this category of study subjects. This is interesting to note that other security devices like alarms and tracking devices were even lower in preference. This can be a future area of an understudy for the car dealer to bring in more devices that cover whole other areas of security issues like deterring theft and tracking capabilities.
- Cars are still seen as an option for emergency use in Coimbatore city as the market for midsize cars is going up. There is a shift observed from the proverbial economy-size cars.

This speaks for the economic growth of the people in the city. Understanding this shift in mindset will help the mid-size car industry grow and find a footing.

- The reason buyer's invested in security devices is because of the technological advancement in the security industry. The buyers here are more forward in their assessment of their needs and can understand without much coercion that a security device is needed. Tapping into this Avant-garde clientele will help markets make an easy entry into more sophisticated devices and gadgets.
- Comfort ranked the highest with satisfaction in using the remote keyless entry. The suggestion would be to provide the customer with a faraday pouch that can prevent the theft of RFID codes and preserve the safety of the remote less key entry.

5. CONCLUSION

Safety is the paramount concern of any car owner and taking that step to achieving that cover of protection is in the hands of the owner. Throughout the study, many devices were surveyed and found that a few were favorites particularly simple devices like the immobilizer. From this, we gather that the owner wanted a safety net to prevent theft. But we know that having just one device doesn't work as it cannot create a security system. A good security system has few or devices and components working together to create a foolproof security blanket. The future of vehicle security systems is bright and can be said to be a growing industry. As the needs on the ground evolve we will see newer systems invade the market making more products available in the market. The consumer is seen as one who is growing in his awareness of the different systems out there. We are seeing the trend shift to a consumer who is tech-savvy and well informed and marketing to such a category can be an easy task as the ground is broken through already.

Crime will never sleep as we stated earlier, but the owner can rest assured if he has a good and reliant security system in his car. Preventing crime is far easier than trying to recover the loss. Therefore the wisest advice to a buyer is prudent and invest in a good system before the crime is committed rather than looking for one after the car has been damaged or vandalized. Look ahead and think ahead will be a good motto to adhere to when considering vehicle security systems. Companies must market to this need rather than the fear, as fears are passing and not stationary. But a cautious attitude and prudence are excellent virtues to inculcate and aim for in oneself in all areas of life who knows it could very well be the difference of life and death.

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